

## Cooler System Flush Procedures

Laboratory cooler systems must be kept on a preventive maintenance schedule in order to eliminate the growth of organics within the cooler and contamination of the laser system. Starting with a sterile system, the cooler (including cooling lines) must be flushed out monthly with a minimum of one gallon of fresh DI water. Every three months, the cooler must be sterilized by flushing the system with a total 10% H<sub>2</sub>O<sub>2</sub> solution (30% 300ml H<sub>2</sub>O<sub>2</sub> : 700ml DI water). The solution must be allowed to flow for a minimum of 45 minutes and allowed to sit with power removed for 15 minutes. If contamination is especially heavy, the 45/15 minute cycle repeated until the contamination has disappeared. If the cooler must sit over night while filled with the peroxide solution, be sure to drain a minimum of half the fluid from the reservoir, otherwise the cooler will seriously overflow from the oxygen buildup. Throughout the peroxide flush, do not tighten the reservoir cap because the cooler may explode from high O<sub>2</sub> pressure.

This flushing process should include the laser head. After flushing with peroxide solution, the cooler must be flushed with fresh **distilled water** at least twice before re-filling for lab use.